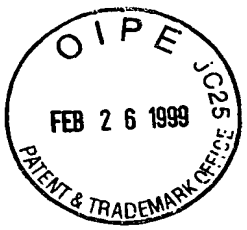
AF/GP - 1634

DOCKET NO.: ISIS-2169 **PATENT**



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RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 1634

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GROUP 180

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Christensen, et al.

Serial No.: 08/612,661 **Group Art Unit:** 1634

Filing Date: March 8, 1996 **Examiner:** A. Marschel

For: SUBSTITUTED NUCLEIC ACID MIMICS

DATE OF DEPOSIT: February 23, 1999
I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, DC 20231.

TYPED NAME: Michael P. Straher
REGISTRATION NO.: 38,325

Box ☐ NON-FEE
☒ AF

Assistant Commissioner for Patents
Washington DC 20231

AMENDMENT TRANSMITTAL LETTER

Transmitted herewith for filing in the above-identified patent application is:

☐ A Preliminary Amendment.

☒ An Amendment Responsive to the Final Rejection Dated November 23,1998 .

☐ An Amendment Supplemental to the Paper filed _____.

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☐ Other: _____.

☐ Small entity status of this application under 37 C.F.R. 1.9 and 1.27 was established in a previous submission.

☐ A Statement Claiming Small Entity Status under 37 C.F.R. 1.9 and 1.27 is enclosed.

☐ This application is no longer entitled to small entity status. It is requested that this be noted in the files of the Patent and Trademark Office.

☐ Substitute Pages _____ of the Specification are enclosed.

☐ An Abstract is enclosed.

☐ _____ Sheets of Proposed Corrected Drawings are enclosed.

☐ A Certified Copy of each of the following applications: _____
_____ is enclosed.

☐ An Associate Power of Attorney is enclosed.

☐ Information Disclosure Statement.

- ☐ Attached Form 1449.
- ☐ A copy of each reference as listed on the attached Form PTO-1449 is enclosed herewith.

☐ Appended Material as follows: _____ .

☐ Other Material as follows: _____ .

FEE CALCULATION

☒ No Additional Fee is Due.

				SMALL ENTITY		NOT SMALL ENTITY	
	REMAINING AFTER AMENDMENT	HIGHEST PAID FOR	EXTRA	RATE	FEE	RATE	FEE
TOTAL CLAIMS	11	21 (20 MINIMUM)		$9 EACH	$	$18 EACH	$
INDEP. CLAIMS	1	3 (3 MINIMUM)		$39 EACH	$	$78 EACH	$
FIRST PRESENTATION OF MULTIPLE DEPENDENT				$130	$	$260	$
☐ ONE MONTH EXTENSION OF TIME				$55	$	$110	$
☐ TWO MONTH EXTENSION OF TIME				$190	$	$380	$
☐ THREE MONTH EXTENSION OF TIME				$435	$	$870	$
☐ FOUR MONTH EXTENSION OF TIME				$680	$	$1360	$
☐ FIVE MONTH EXTENSION OF TIME				$925	$	$1850	$
☐ LESS ANY EXTENSION FEE ALREADY PAID				minus	($)	minus	($)
☐ TERMINAL DISCLAIMER				$55	$	$110	$
☐ OTHER FEE OR SURCHARGE AS FOLLOWS:							
TOTAL FEE DUE					0		

☐ A Check is Enclosed in the Foregoing Amount Due.

☐ Petition is hereby made under 37 C.F.R. 1.136(a) to extend the time for response to the Office Action of @@ to and through @@ comprising an extension of the shortened statutory period of @@ month(s).

☒ The Commissioner is hereby requested to grant an extension of time for the appropriate length of time, should one be necessary, in connection with this filing or any future filing submitted to the U.S. Patent and Trademark Office in the above-identified application during the pendency of this application. The Commissioner is further authorized to charge any fees related to any such extension of time to deposit account 23-3050. This sheet is provided in duplicate.

☒ The Commissioner is authorized to charge payment of the following fees and to refund any overpayment associated with this communication or during the pendency of this application to deposit account 23-3050. This sheet is provided in duplicate.

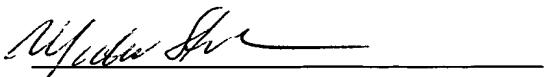
☐ The Foregoing Amount Due for Filing this Paper.

☒ Any additional filing fees required, including fees for the presentation of extra claims under 37 C.F.R. 1.16.

☒ Any additional patent application processing fees under 37 C.F.R. 1.17 or 1.20(d).

SHOULD ANY DEFICIENCIES APPEAR with respect to this application, including deficiencies in payment of fees, missing parts of the application or otherwise, the United States Patent and Trademark Office is respectfully requested to promptly notify the undersigned.

Date:February 23, 1999



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RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP NO. 1634

ISIS-2169

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Christensen, *et al.*

Serial No.: 08/612,661 Group No.: 1634

Filed: March 8, 1996 Examiner: A. Marschel

For: SUBSTITUTED NUCLEIC ACID MIMICS

OK TO ENTER
AM, 3-17-99

I, Michael P. Straher, Registration No. 38,325 certify that this correspondence is being deposited with the U.S. Postal Service as First Class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

On February 23, 1999.

Michael P. Straher, Registration No. 38,325

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Assistant Commissioner
for Patents
Washington, DC 20231

REQUEST FOR RECONSIDERATION

In response to the Office Action mailed November 23, 1999, in connection with the above-captioned patent application, Applicants request that the following amendments be entered, without prejudice:

In the Specification:

Please amend the specification as follows:

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n is at least 2,

each of L^1-L^n is independently selected from the group consisting of hydrogen, hydroxy, $(C_1$-$C_4)$alkanoyl, naturally occurring nucleobases, non-naturally occurring nucleobases, aromatic moieties, DNA intercalators, nucleobase-binding groups, heterocyclic moieties, and reporter ligands, at least one of L^1-L^n being said base substituted with at least one sterically bulky substituent;

each of C^1-C^n is $(CR^6R^7)_y$ where R^6 is hydrogen and R^7 is selected from the group consisting of the side chains of naturally occurring alpha amino acids, or R^6 and R^7 are independently selected from the group consisting of hydrogen, $(C_2$-$C_6)$alkyl, aryl, aralkyl, heteroaryl, hydroxy, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$alkylthio, NR^3R^4 and SR^5, where R^3 and R^4 independently are hydrogen, a conjugate, $(C_1$-$C_4)$alkyl, hydroxy- or alkoxy- or alkylthio-substituted $(C_1$-$C_4)$alkyl, hydroxy, alkoxy, alkylthio or amino; and R^5 is hydrogen, $(C_1$-$C_6)$alkyl, hydroxy-, alkoxy-, or alkylthio- substituted $(C_1$-$C_6)$alkyl, or R^6 and R^7 taken together complete an alicyclic or heterocyclic system;

each of D^1-D^n is $(CR^6R^7)_z$ where R^6 and R^7 are as defined above;

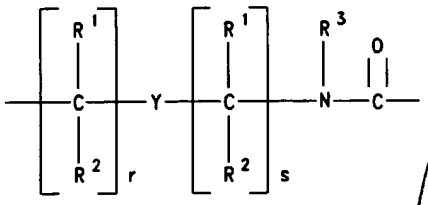
each of y and z is zero or an integer from 1 to 10, the sum y + z being greater than 2 but not more than 10;

each of G^1-G^{n-1} is $-NR^3CO-$, $-NR^3CS-$, $-NR^3SO-$ or $-NR^3SO_2-$, in either orientation, where R^3 is as defined above;

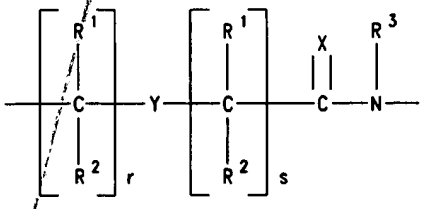
each pair of A^1-A^n and B^1-B^n are selected such that:

(a) A is a group of formula (IIc) and B is N or R^3N^+; or

(b) A is a group of formula (IId) and B is CH;



(IIc)



(IId)

where:

X is O, S, Se, NR^3, CH_2 or $C(CH_3)_2$;

Y is a single bond, O, S or NR^4;

each of p and q is zero or an integer from 1 to 5;

each of r and s is zero or an integer from 1 to 5;

each R^1 and R^2 is independently selected from the group consisting of hydrogen, (C_1-C_4)alkyl which may be hydroxy- or alkoxy- or alkylthio-substituted, hydroxy, alkoxy, alkylthio, amino and halogen;

each of G^1-G^{n-1} is $-NR^3CO-$, $-NR^3CS-$, $-NR^3SO-$ or $-NR^3SO_2-$, in either orientation, where R^3 is a sterically bulky substituent containing 3 or more non-hydrogen atoms;

Q is $-CO_2H$, -CONR'R'', $-SO_3H$ or $-SO_2NR'R''$ or an activated derivative of $-CO_2H$ or $-SO_3H$; and

I is -NHR'''R'''' or -NR'''C(O)R'''', where R', R", R''' and R'''' are independently selected from the group